UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL CLEANUP

September 11, 2014

Mr. Bob Wyatt *sent via email only*
NW Natural
220 NW 2nd Avenue
Portland OR 97209

Mr. Myron Burr
Siltronic Corporation
7200 NW Front Avenue, M/S 20
Portland, Oregon 97210-3676

Re: Conditional Approval for Revised Gasco Sediments Site – Distributed Temperature Sensing Work Plan

Dear Sirs:

The U.S. Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (ODEQ) have reviewed the September 9, 2014 NW Natural response letter regarding comments on the Revised Gasco Sediments Site - Distributed Temperature Sensing Work Plan (DTS Work Plan) dated August 25, 2014. We understand that mobilization for the DTS cable installation is scheduled for Sunday September 14, 2014 with in-water work planned for September 15 through 17, 2014. EPA conditionally approves the DTS Work Plan with the understanding that NW Natural's September 9, 2014 letter will serve as an addendum to the DTS Work Plan. In addition, the following items form part of the conditional approval.

Item to address prior to DTS cable installation:
The SelkerMetrics memorandum that serves as an attachment to NW Natural's September 9th letter mentions numerous factors that influence the depth of cable burial. Diver visibility is not mentioned. Visibility in the Willamette River is poor (the Research Support Services Dive Plan expects 0 to 5 ft. visibility, which is consistent with EPA underwater visibility observations on the lower Willamette) and it appears the cable burial methodology is highly dependent on diver observations. Low visibility should be added to the list of factors influencing cable placement and the steps taken to ensure the cable is placed on the correct alignment and depth should be explained.

Items to be addressed in the "focused investigation results report" described in the DTS Work Plan:
NW Natural Response to EPA Response to Comment 4: It is misleading to refer to the seepage rates listed in the nested table as "observed" as they are estimates produced through kriging data collected from numerous seepage meters installed over a large area. Although kriging suggests the highest rates of groundwater discharge to the river occurs in the vicinity of the proposed DTS area, the measured range of location-specific values for seepage meter GS-B7SM indicate the Willamette River recharges groundwater. In other words, the seepage meter data contradicts the kriging results for the proposed DTS area. The EPA Comment 6 indicating the initial DTS work

focuses on an area where existing conditions support "gradient reversal" from the river to groundwater remains valid.

NW Natural Response to EPA Response to Comment 6: See above reply to NW Natural response to Comment 4.

NW Natural Response to EPA Response to Comment 9: EPA understands that instead of shutting the hydraulic control and containment (HC&C) system down for a period of weeks to establish ambient conditions in the DTS area, NW Natural now proposes that the system be shut-down for 3 days between testing periods with the justification that "this will represent ambient groundwater conditions given that previous testing of the HC&C system showed groundwater levels respond within hours of changing the operation of the HC&C system." Given the need to have information representative of non-pumping conditions, additional information should be provided regarding the use and limitations of data collected using this approach.

NW Natural Response to EPA Response to Comment 14: For clarification, EPA understands that the "focused investigation results report" will provide information to support the statement that groundwater temperature is generally consistent across the Site.

Information from the SelkerMetrics Memorandum (Attachment A to September 9, 2014 letter) should be incorporated into the report with the following clarifications:
Memorandum Item No.1: The Figure 1 temperatures of the Willamette River at the two Gasco temperature stations appear to be higher than the measurements made at the Morrison Bridge. The implication of this should be explained given that relative differences in measurements appear to be relied upon for the DTS work.
Memorandum Item No.2: The importance of/procedure for calibration of the temperature sensors used in piezometers and the Willamette River should also be described.

Please let me know if you would like to discuss this letter further, or have any questions or concerns at (206) 553-1220 or via email at sheldrake.sean@epa.gov.

Sincerely,

Sean Sheldrake, RPM

Cc:
Kristine Koch, EPA *via email only*
Lance Peterson, CDM/S
Dana Bayuk, ODEQ